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regions of Minnesota and Wisconsin, I think he would see the Hypnum gradually give place to Sphagnum in the marshes, and the marsh Ericaceæ appear with the last named moss.

In short, lime seems to be an uncongenial element in the habitat of both Sphagnum and most if not all ericaceous plants, but is not uncongenial to Hypnum and grass. Therefore the abundant presence of lime will not necessarily prevent the accumulation of peat.—C. A. WHITE.

## ZOOLOGY.

CENTRONYX "OCHROCEPHALUS" *Aiken*.—This nominal species, described by Mr. Aiken in a recent number of the NATURALIST,\* is neither entitled to specific rank, nor even to a name as a well marked variety or race. This deduction I have adopted after a careful examination of the two specimens of it collected—one, the type, in the museum of the Smithsonian Institution, the other in the collection of Mr. R. Ridgway—and their comparison with Audubon's type of *C. Bairdii*. The color differs in the two types very appreciably, indeed as much and even more, than in many well established and closely allied species: but while the specific distinctness of these is sustained by large series of specimens in which there is scarcely any gradation, or a too close approximation in coloration, the validity of the *C. "ochrocephalus"* is entirely overthrown by the second specimen obtained, which is exactly intermediate in color, as it is in season of collection, between the first and the single specimen of *C. Bairdii*. The emarginate tail of Aiken's sparrow, as compared with the doubly rounded one of Baird's, has little weight as a character. The *C. Bairdii* undoubtedly possessed this feature, as is apparent from the appearance of the plumage, which everywhere exhibits a worn and bleached surface: and in some places the vanes at the tips of the feathers are worn quite off from the shafts; this is especially noticeable in the rectrices. The most cogent reason for considering it distinct from *C. Bairdii* lies in the differences in their relative size and proportions—*C. "ochrocephalus"* being considerably the larger; but, even in this, it does not exceed the proportion of variation which should be recognized as occurrent in a species.

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\*Vol. vii, p. 237, 1873.

In regard to the new thrush (*Harporhynchus Bendirei*) recently described by Dr. Coues,\* it is probably identical with Mr. Ridgway's var. *Palmeri*.

The maximum number of species in the genus *Harporhynchus* was undoubtedly reached some time ago: and an enthusiastical Darwinian could be censured but mildly for considering the series as representatives of a single species, the most aberrant forms being looked upon as incipient species.—DAVID SCOTT.

WHO FIRST DETERMINED THE TRUE POSITION OF HYALONEMA.—While sympathizing with the spirit of Mr. Chapman's criticism of Prof. Thomson in the current August number of the *NATURALIST*, we must say that he is not quite correct when he asks: "Why therefore does he [Dr. Thomson] unjustly ignore the fact that Dr. Leidy was the first to describe correctly the position of *Hyalonema*, by saying we had been looking at the sponge upside down, and that it had never occurred to any one to reverse it?" Dr. Leidy's article is in the *NATURALIST*, Vol. iv. This was in January, 1871. Doubtless Dr. Leidy's article was written the year before. In the *NATURALIST*, Vol. iii for 1870, is an interesting review of Scandinavian work in Natural History done in the years 1867–8. On page 216 in reference to Prof. Lovén occur these words: "the same celebrated author's ingenious memoir on the little stalked pyriform deep-sea sponge, from Finmarken, termed *Hyalonema boreale* Lovén, by means of which he demonstrated that the Lusitanian and Japanese glass-ropes had hitherto been erroneously represented as if turned upside down." In the article on "The Glass Sponges," in the "Popular Science Monthly" for this month, I have endeavored to do justice in this matter to all concerned.

In regard to Prof. Lovén's *Hyalonema boreale*, it should be mentioned that C. Wyville Thomson in his book, p. 113, says: "It is certainly very far from *Hyalonema*. It is more nearly allied to *Tethya*, for the body of the sponge must certainly be referred to the corticate type, though it differs from all the other known members of its order in being supported on a long symmetrical stalk formed, as Professor Lovén has shown, of sheaves of short spicules bound together by horny cement." But this in no wise affects the soundness of the Professor's demonstration.—S. L.

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\**American Naturalist*, Vol. vii, p. 330, 1873.

PASSAGE OF SPECIFIC CHARACTERS FROM ONE GENUS TO ANOTHER.—I find among the *Acrididæ* from the west a case which would seem to go far toward confirming the opinion of Prof. Cope, that often specific characters pass over from one genus to another.

The *Acrolophitus hirtipes* Thos. (*Gryllus hirtipes* Say) forms a very distinct and somewhat peculiar genus; the specific characters are also very distinct and well marked. During my connection with the United States Geological Survey, in charge of Dr. F. V. Hayden I have frequently met with this species in Colorado, northern New Mexico, and Wyoming, but nowhere else in those territories or in northern Utah, Idaho, Montana, Nebraska, Kansas or Dakota have I met with any closely allied species. Recently the Orthoptera collected by Lieut. Wheeler during his Explorations in Arizona have been submitted to me for examination; in that collection I find specimens which, in specific characters including even color, agree exactly with *A. hirtipes*, but differ in two prominent generic characters.

In *Acrolophitus* the chief generic characters are, an erect, conical vertex (which alone distinguishes it from all other American species of *Oedipodini*); a sharp elevated crest on the posterior lobe of the pronotum; posterior margin of the pronotum acutely angled. The species collected by Lieut. Wheeler has the erect, conical vertex, but the pronotum is without a crest or even a medium carina, and the posterior margin is obtusely rounded, yet the general form, size, etc., even to the hairs on the legs, are the same in both species; the color is exactly the same throughout.—C. THOMAS.

OCCURRENCE OF THE ROCK WREN IN IOWA.—*Salpinctes obsoletus*, not previously found east of the Rocky Mountain region, was observed by the writer last fall in Decatur county, Iowa. It was seen on several occasions, far out on the prairie, running over the ties on the railroad track, retreating when alarmed, into the dense prairie grass.—T. M. T., *Garden Grove, Iowa*.

## MICROSCOPY.

APERTURES OF OBJECTIVES.—It is now certain that nothing can be easier than to get more than 82° of rays through a balsam object and immersion objective, and that those accomplished microscopists who maintained the contrary were in error in resting